

Identification and Seasonal Distribution of Influenza Virus Strains in Thailand: January 2001- September 2003

Pranee Thawatsupha¹, Malinee Chittaganpitch¹, Sunthareeya Waicharoen¹, James Mark Simmerman², Kanaungkid Prasittikheth¹, Paiboon Maneewong¹, Pathom Sawanpanyalert¹

¹National Institute of Health, Department of Medical Sciences, Ministry of Public Health, Nonthaburi, Thailand; ²International Emerging Infections Program, Thai MOPH-U.S. CDC Collaboration, Nonthaburi, Thailand;

Background: Influenza causes annual epidemics and recurring pandemics with serious public health consequences. Continuous strain surveillance is essential to match influenza vaccine composition to circulating strains and to facilitate pandemic planning. Virological surveillance has been carried out in Thailand since the WHO National Influenza Center was established in 1972. As part of an established collaboration between the Thai MOPH and the US CDC, a research study on influenza in Thailand began enrolling patients in August 2003.

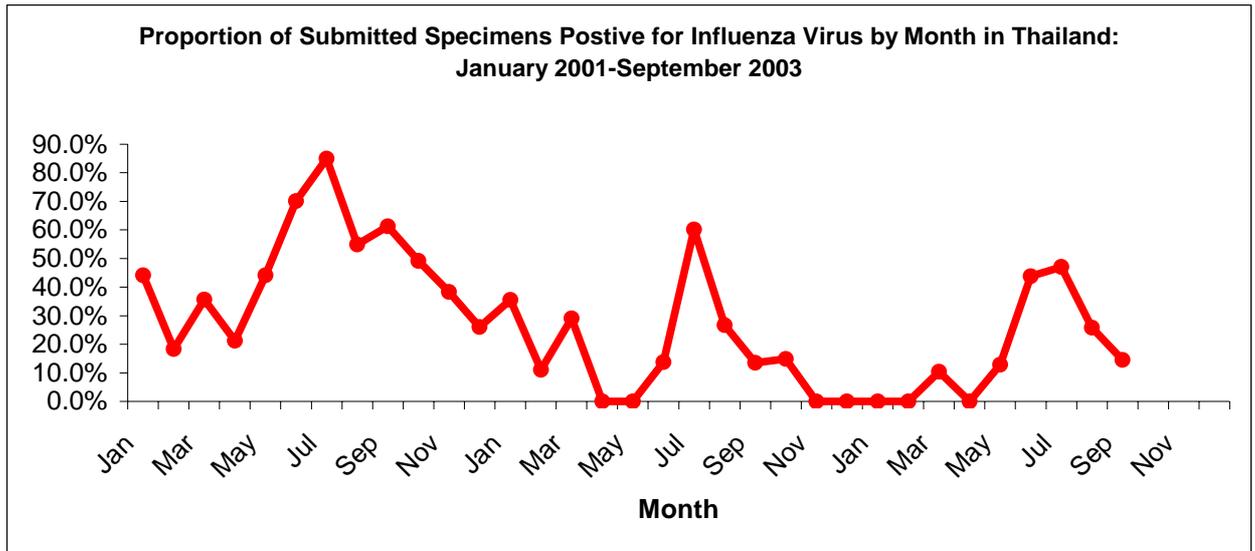
Methods: Throat swab specimens were collected from a large Bangkok outpatient health center and from sentinel sites in the four geographical regions of Thailand. Specimens were collected from patients with symptoms of acute respiratory infection. Seventy percent of specimens were from children ages 0 to 14, while only 5% were from patients over age 60. Following inoculation into fertilized hen egg and MDCK cells, the WHO influenza reagent kit was used to determine viral type and subtype. Isolates were sent for strains analysis to the WHO Collaborating Centers in Melbourne, Australia and CDC Atlanta, USA.

Results: A total of 1,748 throat swabs were tested between January 2001 and September 2003. Of these, 592 (33.9%) were positive for influenza virus. Further subtyping of the influenza isolates showed that 155 (26.2%), 202 (34.1%) and 54 (9.1%) were subtype A(H1N1), (H3N2) and untyped respectively. Influenza type B was isolated in 181 specimens (30.6%). Although influenza virus was isolated throughout the year, the proportion of positive isolates rose during June to October (Figure 1).

Conclusion

Influenza strains identified in Thailand during 2001 matched strains included in both the northern and southern hemisphere influenza vaccines. In 2002, strains identified in Thailand more closely matched the northern hemisphere vaccine.

A/Fujian/411/2002 (H3N2)-like virus circulated in 2003 and will be included in the 2004 southern hemisphere vaccine. The Thai NIH expects to dramatically increase the number of specimens tested in 2004 as a result of the IEIP collaboration between Thai MOPH and US CDC.



Presented at International Conference on Emerging Infectious Diseases, February 29 - March 3, 2004, Atlanta, GA (slide session #27).